

CLAIMS:

1. A method of creating a monolithic circuit structure, the method comprising the steps of:

- (a) placing a circuit component onto an individual layer of substrate;
- 5 (b) firing the individual layer of substrate and the circuit component placed thereon;
- (c) adjusting the circuit component as necessary to achieve a desired degree of precision;
- 10 (d) applying a bonding agent to the individual layer of substrate and assembling the individual layer of substrate with one or more other layers of substrate; and
- (e) firing the assembled individual layer of substrate and one or more other layers of substrate together to activate the bonding agent, thereby bonding the individual layer of substrate to the one or
15 more other layers of substrate and creating the monolithic circuit structure.

2. The method as set forth in claim 1, wherein the circuit component is selected from the group consisting of: resistors, capacitors, and inductors.

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3. The method as set forth in claim 1, wherein the circuit component is placed onto the individual layer of substrate by screen-printing.

4. The method as set forth in claim 1, wherein the individual layer of
25 substrate and the one or more other layers of substrate are pre-fired thick film ceramic substrate.

5. The method as set forth in claim 4, wherein the individual layer of substrate and the one or more other layers of substrate are standard alumina thick
30 film ceramic substrates.

6. The method as set forth in claim 1, wherein the bonding agent is a thick film glass.

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7. A method of creating a multi-layered monolithic circuit structure, the method comprising the steps of:

- (a) printing a circuit component onto an individual layer of thick film ceramic substrate;
- 5 (b) firing the individual layer of thick film ceramic substrate and the circuit component printed thereon;
- (c) trimming the circuit component as necessary to achieve a desired degree of precision;
- 10 (d) applying a bonding agent to the individual layer of thick film ceramic substrate and assembling the individual layer of thick film ceramic substrate with one or more other layers of thick film ceramic substrate; and
- 15 (e) firing the assembled individual layer of thick film ceramic substrate and one or more other layers of thick film ceramic substrate together to activate the bonding agent, thereby bonding the individual layer of thick film ceramic substrate to the one or more other layers of thick film ceramic substrate and creating the multi-layered monolithic circuit structure

20 8. The method as set forth in claim 7, wherein the plurality of circuit components are selected from the group consisting of: resistors, capacitors, and inductors.

9. The method as set forth in claim 7, wherein the individual layers of thick
25 film ceramic substrate are standard alumina thick film ceramic substrate.

10. The method as set forth in claim 7, wherein the bonding agent is a thick film glass.

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11. A method of creating a multi-layered monolithic circuit structure, the method comprising the steps of:

- (a) screen-printing a plurality of circuit components onto a plurality of individual layers of thick film ceramic substrate;
- 5 (b) firing the individual layers of thick film ceramic substrate and the circuit components screen-printed thereon;
- (c) trimming the circuit components as necessary to achieve a desired degree of precision;
- 10 (d) applying a thick film glass bonding agent to the individual layers of thick film ceramic substrate and assembling the individual layers of thick film ceramic substrate; and
- (e) firing the assembled individual layers of thick film ceramic substrate to sinter the thick film glass bonding agent, thereby bonding the individual layers of thick film ceramic substrate together and
15 creating the multi-layered monolithic circuit structure.

12. The method as set forth in claim 11, wherein the plurality of circuit components are selected from the group consisting of: resistors, capacitors, and inductors.

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13. The method as set forth in claim 11, wherein the individual layers of thick film ceramic substrate are standard alumina thick film ceramic substrate.

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14. A method of creating a multi-layered monolithic circuit structure, the method comprising the steps of:

- 5 (a) screen-printing a plurality of circuit components onto a plurality of individual layers of substrate, wherein the circuit components are selected from the group consisting of: resistors, capacitors, and inductors, and wherein the individual layers of substrate are standard alumina thick film ceramic substrate;
- (b) firing the individual layers of substrate and the circuit components screen-printed thereon;
- 10 (c) laser-trimming the circuit components as necessary to achieve a desired degree of precision;
- (d) applying a thick film glass bonding agent to the individual layers of substrate and assembling the individual layers of substrate; and
- 15 (e) firing the assembled individual layers of substrate to sinter the thick film glass bonding agent, thereby bonding the individual layers of substrate together and creating the multi-layered monolithic circuit structure

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